ABSTRACT OF THE DISCLOSURE

[0035] Presented herein are systems and methods for computing the product of a constant and a mixed number power of two. A circuit comprises a first register, a second register, a memory, a third register, and a multiplier circuit. The first register stores the constant. The second register stores the integer portion and the fraction portion. The memory stores a plurality of values, each of said plurality of values corresponding to a particular one of a corresponding plurality of fractions, wherein each one of said plurality of values is two to the exponential fraction corresponding to the one of said plurality of values. The third register stores a particular one of the plurality of values, said particular one of the plurality of values corresponding to the fraction portion. The multiplier circuit multiplies the contents of the third register by the contents of the first register, thereby resulting in a product. The product is shifted a certain number of times, the certain number of times equal to the integer portion.